RECOMMENDATION:
Staff recommends that the Planning and Transportation Commission recommend that the City Council approve the permanent retention of Phase 2 of the Charleston-Arastradero Corridor Re-Striping Project, with additional street modifications outlined in this report.

BACKGROUND:
The Charleston Road-Arastradero Road corridor is a residential arterial on the City’s school commute corridor network. The corridor serves numerous residential neighborhoods, eleven public and private schools, five public parks, the future Mitchell Park Library. Arastradero also provides southern access to the Arastradero Preserve, the Research Park district, and recreational bicycling destinations and residential areas in the western hills. The corridor serves as one of the few east-west through connections across Palo Alto such as University Avenue, Embarcadero Road, Oregon Expressway, and San Antonio Road.

The City completed an initial study of Charleston Road in 2000, but steps to implement plan recommendations were not taken until 2003, following an increase in active redevelopment at that time. In response, the City Council directed staff to prepare a plan of transportation, safety, and urban design/landscape improvements for both Charleston Road and Arastradero Road along the corridor that would enhance safety and mobility for pedestrians and bicyclists, as well as provide visual amenities and quality of life along the corridor, while preserving as much roadway capacity possible. The plan was approved in 2004 and established a traffic impact fee to assist in implementation. The plan included phased implementation of improvements for the Charleston-
Arastradero Corridor, as illustrated in Attachment A. Improvements at the intersection of El Camino Real (ECR) & Charleston Road-Arastradero Road were envisioned but not planned for implementation due to ECR being operated and maintained by the California Department of Transportation (Caltrans).

In 2005 the City began implementation of Phase 1 of the plan along Charleston Road from Fabian Way to Alma Street with a two-year trial starting in 2006, which was adopted for permanent installation by City Council in 2008.

In summer 2009, City Council approved the plan for the Phase 2 trial project on Arastradero Road between El Camino Real and Gunn High School for a one year trial period. Implementation started in August 2010, but took place over one full year due to equipment procurement and construction delays, and on-going modifications in response to community requests for targeted improvements.

The Council approved extension of the trial for an additional year through the 2011-12 school year, so that additional observations could be made, due in part to unplanned changes to the bell schedule at Gunn High School and because many of the original project elements were not implemented until the end of the first year of the trial. In addition, the Bowman International School, located on Terman Drive adjacent to Terman Middle School, also modified its bell schedule for the 2011-2012 school year in efforts to stagger its traffic demands at the Arastradero Road & Donald Drive-Terman Drive intersection. The results of the two-year Arastradero Road trial restriping project are summarized in this report.

**DISCUSSION**

*Arastradero Road Modifications*

After the successful trial of the Phase 1 project along Charleston Road between Alma Street and Fabian Way in 2006, staff began analyzing the Arastradero Road portions of the corridor. Arastradero Road carries approximately 20,000 vehicles per typical weekday and approximately 12,000 vehicles on a typical weekend day. In 2008, modifications were made at the intersection of the Arastradero Road & Gunn High School as the first step the Phase 2 trial. These modifications included the widening of westbound Arastradero Road to provide a right-turn lane into the school along with modifications to the sidewalk and to the internal circulation of the Gunn High School parking lot to improve efficiency of automobile operations, in order to reduce congestion on Arastradero caused by spillback from the Gunn driveway during the morning peak hour. This additional auto capacity was designed to accommodate the proposed bicycle/pedestrian safety improvements that were implemented later in 2010.

The re-stripping trial for the corridor was initiated in August 2010 and includes the following elements:

- Hybrid lane reduction from 4-lanes to 3-lanes in some segments with dedicated or two-way left turn lanes,
- Enhanced rapid flashing beacon crosswalk at Arastradero Road and Clemo Drive, and
- Traffic signal modification at Arastradero Road and Coulombe Drive with special left turn
Within the first year of implementation the City also made the following additional street modifications along Arastradero Road in response to resident requests for improvements:

- Median island at Arastradero Road & Hubbart Street
- Two Vehicle Speed Feedback Sign Installations
- Extension of the eastbound and westbound Arastradero Road lanes between El Camino Real and Alta Mesa-McKellar Avenue
- Two-way left turn installation at Arastradero West Apartments
- Miscellaneous signage and markings improvements

No physical street modifications were made during the second year of the trial project. Instead, improvements focused on traffic signal operations along the corridor at the start of the year, including:

- Introduction of traffic signal coordination between the Arastradero Road & Coulombe Drive and Arastradero Road & Donald Drive-Terman Drive intersections
- Traffic signal controller replacement at Arastradero Road & Donald Drive-Terman Drive
- Additional green time improvements at Alma Street & Charleston Road
- “No Right Turn on Red” restriction for southbound El Camino Real traffic from 7:30AM - 8:30AM on weekdays

In the westbound direction of Arastradero Road, the two existing through travel lanes merge to one lane approximately 250 feet west of Alta Mesa-McKellar Avenue. At Donald Drive-Terman Road, the westbound approach widens back to two through lanes to help preserve roadway capacity. In the eastbound approach, Arastradero Road merges from two lanes to one lane along the frontage of the Alta Mesa Cemetery. The one-lane approach is maintained until Donald Drive-Terman Drive where the roadway widens back to two lanes through that intersection before merging back to one lane at King Arthur Court. At Alta Mesa-McKellar, the eastbound direction widens back to two lanes approaching El Camino Real to align with Charleston Road.

Throughout the duration of the project since the striping was implemented in 2010, Staff has held regular meetings with the Charleston-Arastradero Corridor Stakeholder Committee to discuss roadway operations, and has held four community meetings to solicit public input on the project.

**A. Analysis**

The goals of the Charleston Road-Arastradero Road project are to:

- Enhance streetscape and quality of life in corridor for local residents
- Enhance school commute safety for K-12 students
- Improve quality of bike and pedestrian experience
- Reduce amount of very high speed vehicles
- Minimize traffic shift to adjacent streets
The Analysis section of this report summarizes traffic data collected and observations over the two year trial Arastradero Road restriping project.

**Traffic Signal Operations**

During the morning school peak period, the all-pedestrian signal interval at the intersection of Arastradero Road & Donald Drive-Terman Drive stops all vehicle movements for approximately 26 seconds during each signal cycle. The all-pedestrian signal interval is considered to be an essential safety feature during the AM school commute peak period serving both Terman Middle School and students walking/biking to Gunn High School; however, it contributes to delays along Arastradero Road as well as to vehicles exiting the Terman Driveway during the AM peak school period, as no vehicle movements are allowed through the intersection while the all-pedestrian interval operates. During the first year of the trial, the all-pedestrian interval ran between 7:30AM and 8:15AM; however, this has been modified to end at 8:10AM since the start of the second year of the trial.

The all-pedestrian signal interval was observed to cause queues along Arastradero Road starting at about 8:00AM. Following the all-pedestrian signal interval at 8:10AM both the Arastradero Road & Donald Drive-Terman Drive and Arastradero Road & Coulombe Drive intersections run new traffic signal coordination plan through 9:00AM. This is a new feature added at the start of the second year. The traffic signal coordination plans were observed to function properly and help in clearing long queues of vehicle traffic. Traffic and long queues on Arastradero Road were typically observed to clear by approximately 8:20AM on most days.

The all-pedestrian signal interval at Arastradero Road & Donald Drive-Terman Drive also helps motorists exiting the Terman Drive parking lot during the school drop-off period because the interval restricts pedestrians from entering the path of right turn traffic exiting the parking lot while the traffic signal is green for Terman Drive. With the change in the end time of the all-pedestrian signal interval from 8:15AM to 8:10AM, queues in the parking lot were observed to grow and take longer to clear the parking lot. Starting the traffic signal coordination between the two signals at 8:10AM was also observed to be critical in helping to dissipate any traffic queues on Arastradero Road as quickly as possible. An additional traffic signal modification at the intersection to provide a right turn arrow movement that operates concurrently with westbound left turn signal phase would help clear the Terman Drive parking lot more quickly.

**Vehicle and Bicycle Volume Traffic Data**

Daily traffic volumes on and along Arastradero Road were collected both before and throughout various stages of the project. Monitoring of traffic data is the best tool to measure not only changes in driver behavior/travel patterns but also to determine whether the project helps to promote alternative travel modes such as bicycling and walking.

Table 1 summarizes the measured vehicle volumes during the Peak hours and during a typical weekday at three locations along Arastradero Road. Table 2 summarizes the vehicle volumes on Maybell Avenue. Both tables show that traffic volumes are approximately within three to five percent of the pre-trial conditions along Arastradero Road with an increasing trend that is consistent with general traffic increases around other parts of the city as well as region wide growth. On Maybell Avenue, a larger increase in traffic is noticed close to El Camino Real (near Pena Court) in
Year 2, but a similar increase is not observed along Maybell Avenue further west near Maybell Court. In general, the consistency in pre-project versus project conditions, with the exception of Maybell Avenue near El Camino Real, shows that the Phase 2 Arastradero Road – Trial Restriping Project has not resulted in a significant diversion of traffic onto adjacent streets. Additional vehicle volume data for streets within the Barron Park Neighborhood such as Matadero Road and Amaranta Road is also available and provided within Attachment B, but is not summarized within this report because they show similar findings to that of Arastradero Road between pre-project and project conditions.

### Table 1
Vehicle Traffic Counts along Arastradero Road

<table>
<thead>
<tr>
<th>Travel Period</th>
<th>West of Georgia</th>
<th>East of Pomona</th>
<th>East of McKellar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spring 2010 Pre-project</td>
<td>Spring 2011 Year 1</td>
<td>Spring 2012 Year 2</td>
</tr>
<tr>
<td>AM Peak Eastbound</td>
<td>592</td>
<td>585</td>
<td>703</td>
</tr>
<tr>
<td>AM Peak Westbound</td>
<td>992</td>
<td>935</td>
<td>1,016</td>
</tr>
<tr>
<td>PM Peak Eastbound</td>
<td>963</td>
<td>1011</td>
<td>987</td>
</tr>
<tr>
<td>PM Peak Westbound</td>
<td>638</td>
<td>698</td>
<td>661</td>
</tr>
<tr>
<td>Average Daily Traffic</td>
<td>18,523</td>
<td>17,728</td>
<td>18,518</td>
</tr>
</tbody>
</table>

### Table 2
Vehicle Traffic Counts along Maybell Avenue

<table>
<thead>
<tr>
<th>Travel Period</th>
<th>Near Maybell Ct</th>
<th>Near Pena Ct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spring 2010 Pre-project</td>
<td>Spring 2011 Year 1</td>
</tr>
<tr>
<td>AM Peak East &amp; West</td>
<td>448</td>
<td>468</td>
</tr>
<tr>
<td>PM Peak East &amp; West</td>
<td>101</td>
<td>119</td>
</tr>
<tr>
<td>Average Daily Traffic</td>
<td>1,638</td>
<td>1,614</td>
</tr>
</tbody>
</table>

As shown in Table 2, increases in vehicle traffic counts are seen on Maybell Avenue near Pena Court, with but only minor increases along further west on the street. If significant traffic diversion from Arastradero Road onto Maybell Avenue towards to Gunn High School were occurring, similar traffic increases would also be realized near Maybell Court, but the increases further west are not as significant, and are consistent with volume increases along Arastradero Road and in other areas. It should be noted that in between Pena Court and Maybell Court is Juana Briones Elementary School. Enrollment at the school, based on 11th Day Enrollment counts by Palo Alto Unified School District (PAUSD) shows an increase of 43 students from 372 to 415, or 11.5%, over the last two school years; this is approximately the amount of increase in vehicle traffic on Maybell Avenue at Maybell Court. Furthermore, the number of students attending Juana Briones from outside the school attendance area has also increased.
Bicycle use along the Arastradero Road trial restriping area continues to remain high with bicycle use at the three schools on or adjacent to Arastradero Road (Gunn High School, Terman Middle School, and Juana Briones Elementary school) continuing to show increasing ridership annually. Table 3 below shows the increase in bicycle use near Arastradero Road & Coulombe Drive during the morning peak period and Figure 1 shows the trends in bicycle use at each school over the past decade. Bicycle use along Arastradero Road during the AM peak hour is equivalent to 12% of the vehicle volume on the roadway exceeding the regional bicycle use rate in Palo Alto of 7.1% and in Santa Clara County of 1.4% per the City’s Draft Bicycle & Pedestrian Transportation Plan 2012 – Table 4-1.

### Table 3
AM Peak Hour Bicycle Traffic Counts at Coulombe Drive and Arastradero Road

<table>
<thead>
<tr>
<th>AM Peak Hour</th>
<th>2010 Pre-project</th>
<th>2011 Year 1</th>
<th>2012 Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arastradero Road and Coulombe Drive</td>
<td>n/a</td>
<td>168</td>
<td>191</td>
</tr>
</tbody>
</table>

### Figure 1
Bicycle Use at Public Schools Arastradero Road

*Charleston Road-Arastradero Road Travel Time*

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Travel Time is a measure of the time a vehicle travels over a specific distance. For the Charleston Road-Arastradero Road corridor, travel time data between Charleston Road & San Antonio Road to Arastradero Road & Foothill Expressway was measured to determine the effects of both the Phase I and Phase 2 projects against pre-project conditions and during non-peak periods since a majority of traffic data collected to date is focused on short 30-minute windows during the morning commute and does not represent the effects of the project on regular daytime traffic. The travel time data is measured along points of the corridor, between signalized intersections. Figure 2 shows the travel time along the corridor during various times and includes a comparison of the pre-project conditions.

Figure 2 shows that the total travel times along Charleston Road are fairly consistent in the westbound direction between 2007 and 2012 (Post Phase 1 striping changes). After a vehicle passes Wilkie Way, the travel time to reach Foothill Expressway has decreased since the implementation of the Arastradero Road improvements, starting in 2008 with the Gunn High School driveway improvements; however, there is an increase in travel time to cross El Camino Real. No improvements at the El Camino Real & Charleston Road-Arastradero Road intersection have been made. Travel time on Arastradero between El Camino Real and Gunn High School is more efficient since the start of improvements on Arastradero Road in 2008, but delays crossing El Camino Real have increased since the trial restriping project was implemented. Design improvements to the El Camino Real & Arastradero Road-Charleston Road should be planned and coordinated with the state to help improve travel time across the intersection.

Table 4 highlights the travel times along the Charleston Road-Arastradero Road segment west of Alma Street during the pre-project and project conditions. Table 4 shows that travel time along
Arastradero Road during the morning school peak period is consistent with pre-project conditions, but also identifies the time motorists experience to cross El Camino Real has increased consistent with the finding in Figure 2.

Table 4
Travel Time Surveys – Average Peak Period Travel Times

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Eastbound Arastradero Rd (Foothill Exp to El Camino)</th>
<th>Westbound Arastradero Rd (El Camino to Foothill Exp)</th>
<th>Charleston Rd (Alma St to Foothill Exp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Project (2006-2007)</td>
<td>4’ 49”</td>
<td>7’ 53”</td>
<td>n/a</td>
</tr>
<tr>
<td>Project Year 1</td>
<td>6’ 22”</td>
<td>6’ 24”</td>
<td>4’ 25”</td>
</tr>
<tr>
<td>Project Year 2</td>
<td>3’ 59”</td>
<td>7’ 47”</td>
<td>3’ 43”</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Project (2006-2007)</td>
<td>4’ 05”</td>
<td>3’ 46”</td>
<td>n/a</td>
</tr>
<tr>
<td>Project Year 1</td>
<td>4’ 27”</td>
<td>4’ 00”</td>
<td>1’ 56”</td>
</tr>
<tr>
<td>Project Year 2</td>
<td>4’ 27”</td>
<td>4’ 31”</td>
<td>2’ 23”</td>
</tr>
</tbody>
</table>

Table 5 shows that travel time along the Charleston Road-Arastradero Road corridor is less than 13 minutes in either direction under the project conditions for periods of the day outside of the school commute. During the morning school commute period, travel times along the corridor increase to 17 minutes for up to a half-hour. There is also an increase in travel time along the corridor during the afternoon school peak; however, the increase is not as significant as during the AM school peak.

Table 5
Charleston Road-Arastradero Road Travel Time Data Throughout the Day

<table>
<thead>
<tr>
<th>Time Travel Period</th>
<th>Westbound San Antonio Road to Foothill Expressway</th>
<th>Eastbound Foothill Expressway to San Antonio Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM (Before School Peak)</td>
<td>9’ 10”</td>
<td>9’ 13”</td>
</tr>
<tr>
<td>AM (During School Peak)</td>
<td>17’ 05”</td>
<td>13’ 10”</td>
</tr>
<tr>
<td>AM (Commute Peak)</td>
<td>9’ 37”</td>
<td>12’ 47”</td>
</tr>
<tr>
<td>Noon</td>
<td>11’ 09”</td>
<td>10’ 37”</td>
</tr>
<tr>
<td>Afternoon (Before School Peak)</td>
<td>11’ 20”</td>
<td>10’ 19”</td>
</tr>
<tr>
<td>Afternoon (During School Peak)</td>
<td>10’ 19”</td>
<td>14’ 00”</td>
</tr>
<tr>
<td>PM (Before Commute Peak)</td>
<td>11’ 20”</td>
<td>10’ 33”</td>
</tr>
<tr>
<td>PM (During Commute Peak)</td>
<td>12’ 55”</td>
<td>12’ 48”</td>
</tr>
</tbody>
</table>

Off-Peak Vehicle Speeds
Prior to implementation of the Phase 2 Arastradero Road Trial Restriping project, vehicle speeds
during non-peak hours (9:00AM – 3:00PM) measured 85th percentile speed between 36 and 40 miles per hour, with some vehicles traveling as high as 50 miles per hour. Following implementation of the Phase 2 Trial Restriping project, the 85th percentile speeds have decreased by approximately two to three miles per hour. The number of very high speed vehicles (traveling greater than 37 miles per hour) during the off-peak hours appears to have been reduced by approximately 50 percent.

Collision History
Table 6 summarizes the annual collision history along Arastradero Road between El Camino Real and Gunn High School. The number of annual collisions that involved a bicycle or pedestrian is also noted. The table shows that the number of collisions along Arastradero Road dramatically decreased following the first phase of the projects improvements focused at the Gunn High School driveway in 2008. During the final phases of implementation of the final elements of the project in early 2011 a spike in collisions did occur at the intersection of Arastradero Road & Clemo Drive (five collisions) after construction of the rapid flashing beacon enhanced crosswalk. The rate of rear-end collisions at Arastradero Road & Clemo Drive was reduced following the first quarter after the enhanced crosswalks construction.

Table 6
Arastradero Road Collision History

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Collisions</th>
<th>No. Bike/Ped Involved</th>
<th>Highest Incident Location (not including El Camino)</th>
<th>Incidents at El Camino</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>20</td>
<td>5</td>
<td>Georgia (4)</td>
<td>5</td>
</tr>
<tr>
<td>2006</td>
<td>20</td>
<td>0</td>
<td>Terman (4)</td>
<td>11</td>
</tr>
<tr>
<td>2007</td>
<td>15</td>
<td>5</td>
<td>Coulombe (2)</td>
<td>8</td>
</tr>
<tr>
<td>2008</td>
<td>11</td>
<td>1</td>
<td>Five locations (1)</td>
<td>6</td>
</tr>
<tr>
<td>2009</td>
<td>13</td>
<td>6</td>
<td>Georgia (3)</td>
<td>3</td>
</tr>
<tr>
<td>2010</td>
<td>11</td>
<td>1</td>
<td>Three locations (1)</td>
<td>8</td>
</tr>
<tr>
<td>2011</td>
<td>18</td>
<td>1</td>
<td>Clemo (5)</td>
<td>4</td>
</tr>
<tr>
<td>2012</td>
<td>[3]*</td>
<td>1*</td>
<td>Three locations (1)*</td>
<td>[0]*</td>
</tr>
</tbody>
</table>

*Data represents January 1 through April 5, 2012

Community Feedback
Staff took in feedback from the community prior to and at the August 1, 2011 City Council Hearing where the City Council approved the extension of the trial project into its second year. At the Council hearing, the majority of community concerns focused around maneuvering through the El Camino Real & Arastradero Road-Charleston Road intersection. No improvements in either phase of the corridor project involved improvements at the intersection with the exception of a “No Right Turn on Red” restriction for southbound El Camino Real traffic during the morning peak hour from 7:30AM to 8:30AM.

Maybell Avenue
Since the August 2011 City Council Hearing, Staff held community meetings in December 2011 and again in June 2012; with approximately 35 to 40 attendees at each meeting. Recent community
feedback was focused around traffic on Maybell Avenue. The trial project did not include any improvements on Maybell Avenue but the new Gunn High School bell schedule that includes the school day starting 30 minutes later in the morning than in previous years results in more high school traffic being on Maybell Avenue at the same time Juana Briones School traffic is on the road, versus previous years with Gunn High School and Terman Middle School competing for access on Arastradero Road. Completing design and implementation of the Maybell Bicycle Boulevard may help to facilitate bicycle and vehicle movements along Maybell Avenue.

Left Turn Access onto/from Local Streets
Concerns and positive comments from residents living on local streets serviced by Arastradero Road were received regularly throughout the trial. Concerns are summarized here. Most of the streets along Arastradero Road maintained left turn access as part of the trial through either a dedicated left turn lane or a two-way left turn. Streets such as Georgia Avenue and Ynigo Way have left turn lanes to service residents from Arastradero Road but not from the local street back onto Arastradero Road. At Hubbart Street-Ynigo the City modified the trial project in the first year to provide a raised median island to house a dynamic vehicle speed feedback sign. Other local streets where residents have expressed concerns regarding “left turn out” access include Los Robles Avenue and Pomona Avenue. Removal of the median island at Hubbart Street-Ynigo and replacement with a two-way left turn lane will help residents on those streets to regain more convenient access onto Arastradero Road. Removal of median locations near Pomona Avenue and Los Robles Avenue is also feasible to accommodate Arastradero Road access.

Bicycle Access on Arastradero Road
Bicycle safety was also identified as an area of concern by residents. The collision data presented in this report shows a reduction trend in these types of collisions but when collisions have occurred, it has been shown to involve bicyclists riding in the wrong direction of travel with vehicle traffic. Staff is recommending the acceleration of Safe Routes to School surveys for the Arastradero Road schools in the Fall 2012 to help build education materials for student bicyclists through the Walk and Roll Map development of that project. The City is currently working with the City-School Traffic Safety Committee to accelerate those schools into the schedule for next school year. The Safe Routes to School project is funded by a grant from the Valley Transportation Authority – Vehicle Emissions Reductions Based near Schools (VERBS) program.

Since the implementation of the trial project, the industry has seen introduction of new Best Practices to help highlight bicycle use and reduce conflicts with treatments such as green bicycle lanes. Green bicycle lane treatments at key Arastradero Road intersections such as Alta Mesa-Mckeller, Coulombe Drive, Donald Drive-Terman Drive, and Gunn High School are recommended to provide motorists awareness of the presence of bicycles. New signage to identify Wrong Way Bicycle Riding is also recommended similar to that installed on Channing Avenue between Newell Road and Lincoln Avenue.

B. Street Improvement Recommendations
Permanent retention of the Phase 2 – Trial Arastradero Road Striping Improvements is recommended with the following additional civil and programmatic improvements:
Capital Improvements

- Traffic signal modifications at Arastradero Road & Donald Drive-Terman Drive to allow Terman Drive traffic to exit onto eastbound Arastradero Road concurrently with left turn movements into Terman Drive between 7:30AM-8:10AM (during the same period as the all-pedestrian interval).
- Accelerate the design and implementation of the Maybell Avenue Bicycle Boulevard project.
- Remove the median island on Arastradero Road between Hubbart Street and Ynigo Way. This will require the relocation of the vehicle speed feedback sign from the median to the sidewalk along the north side of Arastradero Road.
- Implement green bike lane improvements at key intersections along Arastradero Road, including Alta Mesa-McKellar, Coulombe Drive, Donald Drive-Terman Drive, and Gunn High School.

Programmatic Improvements

- Accelerate the development of suggested Walk and Roll Maps for public schools on- and along- Arastradero Road in the Fall 2012.
- Initiate a Project Study Report with Caltrans for the intersection improvements at the El Camino Real & Arastradero Road-Charleston Road intersection. Funding is available from previously collected traffic impact fees.

POLICY IMPLICATIONS:
The installation of the Phase 2 Trial Re-Striping and lane configurations for Arastradero Road is consistent with the Council-approved Charleston/Arastradero Corridor Improvement Plan. The project is also consistent with several of the Palo Alto Comprehensive Plan, Transportation Element Goals:

- T-1, Less Reliance on Single Occupant Vehicles;
- T-3, Facilities, Services and Programs that Encourage and Promote Walking and Bicycling;
- T-5, a Transportation System that Minimizes Impacts on Residential Neighborhoods;
- T-6, a High Level of Safety for Motorists, Pedestrians and Bicyclists on Palo Alto streets; and
- T-41, Treat streets with landscaping, medians, and other visual improvements to distinguish them as residential streets.

RESOURCE IMPACT:
Capital Improvement Program (CIP) Project PL-05002 – Charleston Road/Arastradero Road Project provided funding for the implementation of the Charleston/Arastradero Corridor Phase 1 and Phase 2 Trial as part of regularly scheduled resurfacing. The additional recommended street improvements with the permanent retention of the Phase 2 Trial Arastradero Road Restriping project can be funded from the CIP.

TIMELINE
The City Council hearing regarding this trial is tentatively scheduled for September 4, 2012. Street improvements, outside of civil type improvements, such as median island removal and traffic signal
modifications, can be made over the summer in efforts to implement potential improvements before the start of the next school year.

ENVIRONMENTAL REVIEW:
The City Council adopted a Mitigated Negative Declaration (MND) pursuant to the California Environmental Quality Act (CEQA) for the Charleston/Arastradero Corridor Plan on January 20, 2004.

ATTACHMENTS:
A. Location Map  
B. Traffic Volume Maps  
C. Public Comment

COURTESY COPIES:  
Charleston/Arastradero Corridor Stakeholders Group  
Katya Villalobos, Gunn High School  
Katherine Baker, Principal, Terman Middle School  
Vacant Position, Principal, Juana Briones School  
Mary Beth Ricks, Bowman International School  
Bob Golton, PAUSD Bond Program  
Palo Alto Bicycle Advisory Committee

PREPARED BY: Rafael Rius, Transportation Project Engineer

REVIEWED BY: Jaime O. Rodriguez, Chief Transportation Official

DEPARTMENT/DIVISION HEAD APPROVAL: Curtis Williams, Director
Project Area

Phase 1 – Charleston Road Improvements
Phase 2 – Arastradero Road Improvements

Future Improvements at El Camino Real Intersection
AM Peak Hour Traffic Comparison
(Primary Traffic Movements during AM School Peak Hour)

<table>
<thead>
<tr>
<th>Location</th>
<th>Before (Spring 08-10)</th>
<th>(Fall 2011)</th>
<th>(Spring 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Robles</td>
<td>194 (202) (252)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arastradero @ Pomona</td>
<td>232 (167) (181)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maybell @ Pena Ct</td>
<td>408 (443) (690)</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Matadero @ Josina Ct</td>
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Daily Traffic Count Comparison
Combined Two-Way Daily Traffic Movements

Before (Spring 08-10)
(Fall 2011)
(Spring 2012)

Maybell @ Maybell Ct
1,638 (1,356) (1,934)

Matadero @ Josina Ct
1,407 (1,310) (1,695)

Maybell @ Maybell Ct
2,700 (2,732) (3,348)

Donald Dr
755 (721) (733)

Georgia Ave
827 (353) (419)

Arastradero @ Cemetery
18,523 (18,460) (18,518)

Arastradero @ Pomona
18,458 (19,547) (19,635)

Arastradero @ Cemetery
18,137 (18,855) (20,537)

Los Robles
4,077 (2,365) (2,677)

Arastradero @ Pomona
18,458 (19,547) (19,635)

Arastradero @ Cemetery
18,137 (18,855) (20,537)

Los Robles
1,846 (1,766) (1,912)

Arastradero @ Cemetery
18,523 (18,460) (18,518)

Arastradero @ McKeller
18,137 (18,855) (20,537)

Los Robles
2,700 (2,732) (3,348)

Arastradero @ McKeller
18,137 (18,855) (20,537)

Arastradero @ Cemetery
18,523 (18,460) (18,518)

Arastradero @ McKeller
18,137 (18,855) (20,537)
Dear Commissioners --

I am a resident of Barron Park, and a daily user of Arastradero Road, mostly between Coulombe Drive and Foothill Expressway.

I am unable to attend the July 25th Commission meeting and so offer my comments here:

I have, overall, been very happy with the trial re-striping.

It has reduced the peak speeds I observe and not significantly increased the time it takes me to travel in either direction. I generally avoid the school start and end times, but even when I do travel at Gunn's start time I have not found the delays to be excessive. At peak times traveling from Foothill to Coulombe the traffic does sometimes back up considerably, and I wonder if there are adjustments to the timing at the traffic lights from El Camino to Terman that would improve the flow.

I would like to see the current design made permanent. I believe that if the permanent implementation included raised median areas it would solve the current problems with drivers who choose to ignore the virtual medians and lane striping and just drive in the center areas to pass other vehicles and enter left turn lanes that are shorter than they would wish.

Sincerely,

Nick Briggs
From: Jean Wren <wrenjp@gmail.com>
Sent: Wednesday, July 11, 2012 8:25 PM
To: Planning Commission
Subject: Arastradero plan

Dear Commission:

I think the new configuration of lanes on Arastradero is a very bad idea. It now takes much longer to get from El Camino to Foothill Expwy in the morning. This happens anytime between 7:30 and 10:00 am. A huge part of the problem is the tie-up whenever the light changes at Gunn HS due to people leaving Gunn. It now usually takes at least 3 changes of the combined lights at Gunn and Foothill Expwy to get through the area. This is unacceptable. It was better before. Most of the problem is due to the reduction in number of lanes on Arastradero. However, the problem is exacerbated by the staggering to school start times. This extends the time of maximum congestion to over 2 hours. The situation is equally bad in the reverse direction from Foothill to Terman. As a result of the new configuration of lanes there is no good time to travel Arastradero between El Camino and Foothill.

The present striping also is confusing and dangerous for pedestrians and bicyclists. Cars have difficulty figuring out where the main lane is, thus often invade the bicycle lane or turn lanes.

Please revert to the original configuration.

Palo Alto is in a difficult financial state. We should not be wasting money on rearranging lanes on major connecting streets or in shopping areas. Please stop wasting money on such projects. It is time to focus on repairing our infrastructure--repaving streets that are a true hazard for cyclists, allowing sufficient time for pedestrians to cross El Camino when they press the walk button (although I walk quickly I cannot make it across El Camino at Matadero before the light changes, even when I press the walk button.), fixing the light at Alma and Churchill so that it does not turn red for traffic on Alma (when no train is coming) after only one car goes through, even when a second car is waiting right behind the first one.

Sincerely,
Jean Wren
800 Matadero Ave
Palo Alto, 94306

Received
JUL 12 2012
Department of Planning
& Community Environment
Good evening,

Just tonight, while it was still light at 8pm, my daughter (long time ago Gunn grad) was driving us home from Cupertino - she lives in Menlo Park and doesn't usually come this way to my house in Barron Park - as we were "side-swiped" twice between Gunn and Coulombe by cars turning on Donald and just trying to get by us, she was taken aback - as I have been numerous times - especially in the dark - that what has been done to the previously straight lanes to accommodate bicyclists and pedestrians are accidents waiting to happen - for motorists.

Gwen Luce
Laguna Way, Palo Alto
Ellner, Robin

From: Felix Zajac <zajac@stanford.edu>
Sent: Saturday, July 14, 2012 10:26 AM
To: Planning Commission
Cc: Joyce Zajac
Subject: Arastradero Rd Re-striping

Because of the reduction in car speeds and car-bike/pedestrian accidents, and the convenience on turning onto or from Arastradero, I support keeping the re-striping permanent on Arastradero Rd.

Thanks.

Felix E. Zajac
4138 Willmar Dr.
Palo Alto, CA 94306

Received

JUL 16 2012

Department of Planning
& Community Environment